5. Use nested loops to generate a triangle number pattern, applying conditional checks.

Write a program that demonstrates the use of various methods available in String class

Code

```
public class PatternStringDemo {
    public static void main(String[] args) {

        // Triangle Number Pattern
        System.out.println("Triangle Number Pattern:");
        for (int i = 1; i <= 5; i++) {
            for (int j = 1; j <= i; j++) {
                if (j % 2 == 0)
                    System.out.print(j + " ");
                else
                    System.out.print(j + " ");
            }
            System.out.println();
        }

        // String Methods
        String str = "Hello Java";

        System.out.println("\nString Methods:");
```

```
        System.out.println("Original String: " + str);
        System.out.println("Length: " + str.length());
        System.out.println("Uppercase: " + str.toUpperCase());
        System.out.println("Lowercase: " + str.toLowerCase());
        System.out.println("Character at index 1: " +
str.charAt(1));
        System.out.println("Substring (0 to 5): " +
str.substring(0,5));
        System.out.println("Contains Java? " +
str.contains("Java"));
        System.out.println("Replace Java with World: " +
str.replace("Java","World"));
    }
}
```